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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Hong You

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1237

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EXAMINER

WILSON, MICHAEL H

ART UNIT

PAPER NUMBER

1794

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,842	Applicant(s) YOU ET AL.	
	Examiner MICHAEL WILSON	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 8-10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20060627</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 2 and 4 are objected to because of the following informalities: Claims 2 and 4 do not end with periods. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 2-4, the claims are in an improper Markush format. A suggested correction is to insert "and" before the last formula of the list recited in each claim.

Appropriate correction is required.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-6, 11, and 12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4, 6, and 10-14 of copending Application No. 11/377474. Although the conflicting claims are not identical, they are not patentably distinct from each other because while the claims are

Art Unit: 1794

not identical there is substantial overlap between the present claims and the copending application.

One of ordinary skill attempting to make and use the polymer and device of copending application 11/377474 would also be practicing the present invention. The copending application teaches an electroluminescent polymer represented by the formula in present claim 1 where Ar is a substituted fluorene, with x (instant l) and y (instant m) integers in the present range. The additional unit B is taught to be an aryl or heteroaromatic group which also falls into the recitation of Ar ("combinations thereof," instant claim 1) (copending claim 1). Instant R1, R2, R3, and R4 are taught as the same alkyl and aryl units as instant claim 2 (copending claim 2). Instant R5 and R6 are taught as the same alkyl and aryl units as instant claim 3 (copending claim 3). Instant R7 and R8 are taught as the same alkyl and aryl units as instant claim 4 (copending claim 4). B may be selected from groups (i) to (v) or a combination thereof (vi) which includes an aryl group (fluorene) and heteroaromatic groups (copending claim 6). The ratio of x+y:z is 50-100:0-50 (copending claim 7) overlaps with the present claims (instant claim 6). The copending application also teaches an electroluminescent device comprising an anode, cathode and a light-emitting layer containing the electroluminescent polymer (copending claims 10 and 11), and may further comprise a hole, electron transport layer, or interlayer (copending claims 12-14).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claim 7 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 11/377474 in view of Treacher et al. (WO 02/077060 A1) English equivalent (US 2004/0135131 A1) relied upon.

Although the conflicting claims are not identical, they are not patentably distinct from each other because while the claims are not identical there is substantial overlap between the present claims and the copending application. One of ordinary skill attempting to make and use the polymer and device of copending application 11/377474 would also be practicing the present invention. The copending application teaches an electroluminescent polymer represented by the formula in present claim 1 where Ar is a substituted fluorene, with x (instant l) and y (instant m) integers in the present range. The additional unit B is taught to be an aryl or heteroaromatic group which also falls into the recitation of Ar ("combinations thereof," instant claim 1) (copending claim 1). However the reference does not explicitly disclose wherein Ar is an arylamine comprising 5-15 mol % of the polymer.

Treacher et al. teach a similar electroluminescent polymer (abstract). The reference teaches adding arylamine units to ([0071], and [0212]) polymers comprising polyfluorene in order to improve the hole transport properties of the polymer ([0069]-[0070]). The reference teaches using at least 5 mol % of arylamine copolymer units and gives an example of 10 mol % arylamine units [0212].

It would be obvious to one of ordinary skill in the art at the time of the invention to add the arylamine units of Treacher et al. into the polymer of copending application

Art Unit: 1794

11/377474. One of ordinary skill in the art would reasonably expect such a combination to be suitable given that Treacher et al. teach arylamine units in electroluminescent polymers. One of ordinary skill would be motivated by a desire to improve the hole mobility of the polymer as taught by Treacher et al.

This is a provisional obviousness-type double patenting rejection.

Claims 1-7, 11, and 12 are directed to an invention not patentably distinct from claims 1-4, 6, and 10-14 of commonly assigned Application No. 11/377474.

Specifically, see above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned Application No. 11/377474, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon

Art Unit: 1794

the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Allowable Subject Matter

8. Claims 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art, Treacher et al. (WO 02/077060 A1) teaches electroluminescent polymers comprising fluorene and spirobifluorene units. However, the reference does not teach or suggest the specific polymers of claims 8-10.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kim et al. (US 5,807,974 A), Higashi et al. (US 6,617,051 B1), Senoo et al. (US 6,517,957 B1), Spreitzer et al. (US 6,653,438 B1), Suzuki et al. (US 6,652,997 B2) each disclose electroluminescent polymers with fluorene units. However each fails to disclose or suggest substituting the fluorene unit in the 9-position with fluorene substituents as instant formula (1) (instant claim 1).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL WILSON whose telephone number is (571)

Art Unit: 1794

270-3882. The examiner can normally be reached on Monday-Thursday, 7:30-5:00PM EST, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MHW

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794